

04/24/14 Agenda

- Review Chapter 8 Test
- Chapter 9 - Quadratic Functions & Equations
 - Day 2 - Graphing using Axis of Symmetry & Vertex
Finish

Homework

- Worksheet 2 - Graph Using AoS & Vertex
- Monday - Review for NGA Final
- Tuesday (4/29) - NGA Final

Warm Up



Put your name on a slip of paper.

Find the AoS and the vertex of this Quadratic Equation:

$$y = \underbrace{1}_{A}x^2 - \underbrace{7}_{B}x + 15$$
$$Ax^2 + Bx + C$$
$$x = \frac{-B}{2A}$$
$$\text{AoS: } x = \frac{-(-7)}{2(1)} = \frac{7}{2}$$
$$\text{VERTEX } (x, y)$$
$$\left(\frac{7}{2}, \frac{11}{4}\right)$$
$$\left(\frac{7}{2}\right)^2 - 7\left(\frac{7}{2}\right) + 15$$
$$\frac{49}{4} - \frac{49}{2} + 15$$
$$-\frac{49}{4} + 15$$

Warm Up



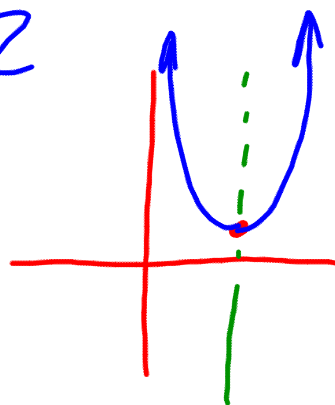
Put your name on a slip of paper.

Find the AoS and the vertex of this Quadratic Equation:

$$y = \underbrace{1}_{A}x^2 - \underbrace{8}_{B}x + 17_C$$
$$Ax^2 + Bx + C$$
$$x = \frac{-B}{2A}$$

AoS: $x = \frac{-(-8)}{2(1)} = \frac{8}{2} = 4$

VERTEX (X, Y)



$$(4, 1)$$
$$(4)^2 - 8(4) + 17$$
$$16 - 32 + 17 = 1$$

Quadratics - Day 2 - Graphing using Symmetry & Vertex

April 22, 2014

Lets learn a new way for graphing, and shorten our x-y tables a bit!

$$y = -2x^2 + 4x + 1$$

Standard Form of a Quadratic Function: $Ax^2 + Bx + C$ $A = -2$
 $B = 4$

Finding the Axis of Symmetry (AoS): $x = \frac{-B}{2A}$ $\frac{-4}{2(-2)} = \frac{-4}{-4} = 1$

(this will be a VERTICAL dotted line)

Finding the Vertex: (x, y) Vertex is a MAX if $A < 0$

Vertex is a MIN if $A > 0$

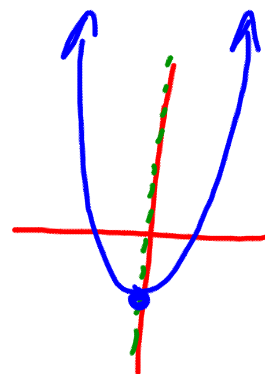
Practice: $y = x^2 - 3$

$$Ax^2 + Bx + C$$

STANDARD FORM? y $A = 1$ $B = 0$ $C = -3$

AoS: $x = \frac{-B}{2A} = \frac{0}{2} = x = 0$

Vertex: (x, y) $(0, -3)$ $y = 0^2 - 3$
 $y = -3$



Quadratics - Day 2 - Graphing using Symmetry & Vertex

April 22, 2014

$$Ax^2 + Bx + C$$

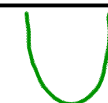
Finding the Axis of Symmetry (AoS): $x = \frac{-B}{2A}$


Finding the Vertex: (x, y)

Practice: $y = \underbrace{-2}_{A}x^2 + \underbrace{4}_{B}x + 1$ $Ax^2 + Bx + C$

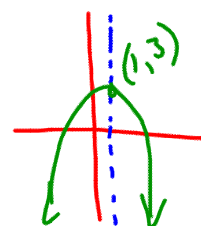
Standard Form?

y

$A > 0$ 

AoS: $x = \frac{-B}{2A} = \frac{-4}{2(-2)} = \frac{-4}{-4} = 1$ $X=1$ $A < 0$ 

Vertex: $(1, ?)$ $y = -2(1)^2 + 4(1) + 1$
 $(1, 3)$ $-2 + 4 + 1$



Practice: $y = 5 - 12x + 3x^2$

Standard Form?

AoS: $x = \frac{-B}{2A}$

Vertex: